

Chapter 4

Nuclear, Biological, and Chemical (NBC) Defense Logistics Status

4.1 INTRODUCTION

The overall logistical readiness of the Department of Defense's NBC defense equipment continues to improve. The Services have increased stock of most NBC defense equipment, and the overall requirements have decreased as a result of a smaller force. Both factors have improved the overall DoD readiness and sustainment status. Asset visibility initiatives continue to increase the ability to manage what is becoming an increasingly joint collection of NBC defense end items and consumables. A number of items continue to pose a moderate to high risk challenge due to low inventories and continued modernization efforts.

The DoD Chemical and Biological Defense Program jointly manages the research, development, and procurement of major end items of NBC defense equipment. These items are funded through defense-wide funding accounts. Consumable NBC defense items are managed by the Services and the Defense Logistics Agency (DLA) in accordance with Title X responsibilities of the Services and their desires to manage their own operations and maintenance funds. Under the provisions of Title X of the FY95 Defense Authorization Act, Service Secretaries are responsible for, and have the authority to conduct, all affairs of their respective departments including supplying, researching, developing, training, and maintaining equipment. The existence of defense-wide (rather than Service-specific) funding accounts has ensured the joint integration of NBC defense programs. However, no defense-wide (that is, joint) funding mechanism exists for the NBC defense logistics area. Because of this, the *joint* NBC defense community is limited to tracking the status of the DoD NBC defense logistics readiness and sustainment program and making recommendations to correct funding shortfalls.

The Joint Service Materiel Group (JSMG) coordinates NBC defense logistics issues. The JSMG, established by the Joint Service Agreement (JSA), works to ensure a smooth transition through the phases of NBC defense equipment life cycles. It is also charged with developing and maintaining an annual Joint Service NBC Defense Logistics Support Plan (LSP). This LSP forms the basis for the analysis found later in this chapter.

During the past year, increased focus by all Services and DLA on NBC defense logistics has visibly improved the overall program. Estimates are that the risk posed by weapons of mass destruction to early deploying units and special operations forces has been considerably reduced. Readiness shortfalls have been identified and addressed to the degree that full sustainment through a one Major Theater War (MTW) scenario is reasonably assured. The ability to sustain a second nearly simultaneous MTW scenario is not fully assured, due to current and potential critical shortfalls of specific program areas. The Services are programming funds for the FY02-07 POM to specifically address these problem areas. Additionally, the services are formulating

doctrine, tactics, techniques, and procedures for domestic response to terrorist incidents involving weapons of mass destruction.

The Joint Chemical Defense Equipment Consumption Rates (JCHEMRATES) IV study is in the final stages of validation and Service staffing. This study is being sponsored by the Joint Services Coordination Committee and executed through the U.S. Army Center for Army Analysis (CAA). The goal of the JCHEMRATES study is to define the parameters of future chemical warfare scenarios and determine the consumption rates for consumable DoD chemical defense equipment. Using the current Defense Planning Guidance and Quadrennial Defense Report, the JCHEMRATES study is developing consumption rates for the two MTW scenarios. These consumption rates will include both medical and non-medical chemical defense items for each Service and overall DoD roll-ups for both scenarios. They include both initial issue of chemical defense equipment and sustainment through the 120-day period. Once validated by the Services, these rates will form an important basis for determining future Service purchases and their readiness to go to war. As of the writing of this document, the JCHEMRATES IV study results are still in draft.

The JCHEMRATES IV study's two MTW requirement is not and should not be considered a procurement target. This study did not fully consider certain factors such as air transport into theaters of conflict or Navy fleet requirements for ships at sea. While the Services agree with the methodology and intent of the study, the study may require further refinement prior to becoming a fully accepted planning tool. The MTW requirement does not consider peacetime training requirements, sizing requirements, or full procurement to the entire active and Reserve forces. The MTW requirement denotes a *minimum planning number*, which if the total DoD inventory drops below, may represent a critical shortfall for that particular item, which should be immediately addressed to avoid diminishing the force's NBC defense capability. Because of this limitation in the study, the Services have identified their total Service requirements as their procurement targets, while acknowledging JCHEMRATES as a necessary step in joint service management of the NBC defense program.

The Services continue to have issues regarding the accountability and management of NBC defense item inventories. Limited asset visibility of consumable NBC defense items below the wholesale level remains a problem due to the lack of automated tracking systems at that level (the exception being the Air Force). This has the full attention of the senior NBC defense managers. Improvement in this area is dependent on the progress of the DoD Total Asset Visibility (TAV) project.

The Services still procure consumable NBC defense items through multiple, separate, and distinct funding authorizations, as discussed in Section 4.6 of this chapter. Each Service is addressing secondary item procurement policies independently. However, there continues to be a shortfall of specific NBC items when measured against DoD requirements of a two MTW scenario.

The process by which the Services and DLA fund and store war reserve materiel has been hampered by differing definitions, different deployment strategies, and a lack of validated

requirements for jointly managed items. JCHEMRATES IV, once validated, will create a solid foundation for providing a basis for the common planning of future requirements.

The JSMG initiated its third Joint Service NBC Defense Logistics Support Plan (LSP) in September 1998. This report focuses on identifying the current on-hand stores of the Services' and DLA's NBC defense equipment, and matching these numbers against the requirements generated from the recently completed draft JCHEMRATES IV study (results as of March 1998). The LSP's aim is to identify the Services' readiness and sustainment capability, maintenance sustainment, and industrial base issues in the area of NBC defense. The data call conducted for the FY99 LSP was used to develop the findings in this chapter.

4.2 NBC DEFENSE LOGISTICS MANAGEMENT

NBC defense logistics management remains in transition. The Joint NBC Defense Board has begun to exercise full authority in this area, and the JSMG, which reports to the Joint NBC Defense Board, has been charged with coordinating and integrating logistics readiness. The JSMG's role is to identify current readiness and sustainment quantities in the DoD NBC logistics area, with respect to the two MTW scenario outlined in the Quadrennial Defense Review. Developmental NBC defense programs that will be fielded within the POM time period are addressed to identify modernization efforts that are underway.

As currently envisioned, all Services retain "starter stocks" of NBC defense equipment that will support immediate deployments and initial operations. The length of time that these stocks will last each unit depends on the respective parent Service. Air Force units deploy with 30 days of NBC defense consumables. Army divisions use a planning figure of 45 days, while Marine Corps forces and Navy shore units use 60 days as the basis for their plans. As a matter of policy, Navy ships stock 90 days of consumable material. However, these values are notional in that they are based on peacetime demand and/or projections of wartime demand as contained in pertinent allowance documentation. For NBC defensive material, and particularly in the case of individual protective equipment (IPE), the days of supply represent a minimum stockage position based on current investment guidelines for such material. In most cases, the Services will first redistribute any available uncommitted assets to provide sustainment before sourcing elsewhere. Once these starter stocks are depleted, the military force turns to the DoD NBC defense item managers for "swing stocks," also known as "sustainment stocks."

DLA and the Army Materiel Command (AMC) are the item managers, or National Inventory Control Points (NICP), for the vast majority of NBC defense items in all four Services. They are responsible for industrial base development, acquisition, and storage of wholesale peacetime and sustainment wartime stocks. They buy (process procurement actions) and, if requested, store NBC defense materiel (swing stocks) for the Services. However, the Services must provide funding to DLA and AMC for the procurements.

Currently, only Army owned sustainment stocks are stored in DLA and AMC depots, providing limited back-up for deployed forces during a contingency. Because of a lack of visibility of NBC defense items, unclear wartime requirements (given the post-Cold War

environment), scarce Operations and Maintenance funds, and low priorities given to NBC defense stocks, the current quantity of DLA and AMC NBC defense war reserves have been reduced and will not support sustainment requirements for the entire DoD force during a full two MTW scenario. These numbers are reflected in the tables of this chapter.

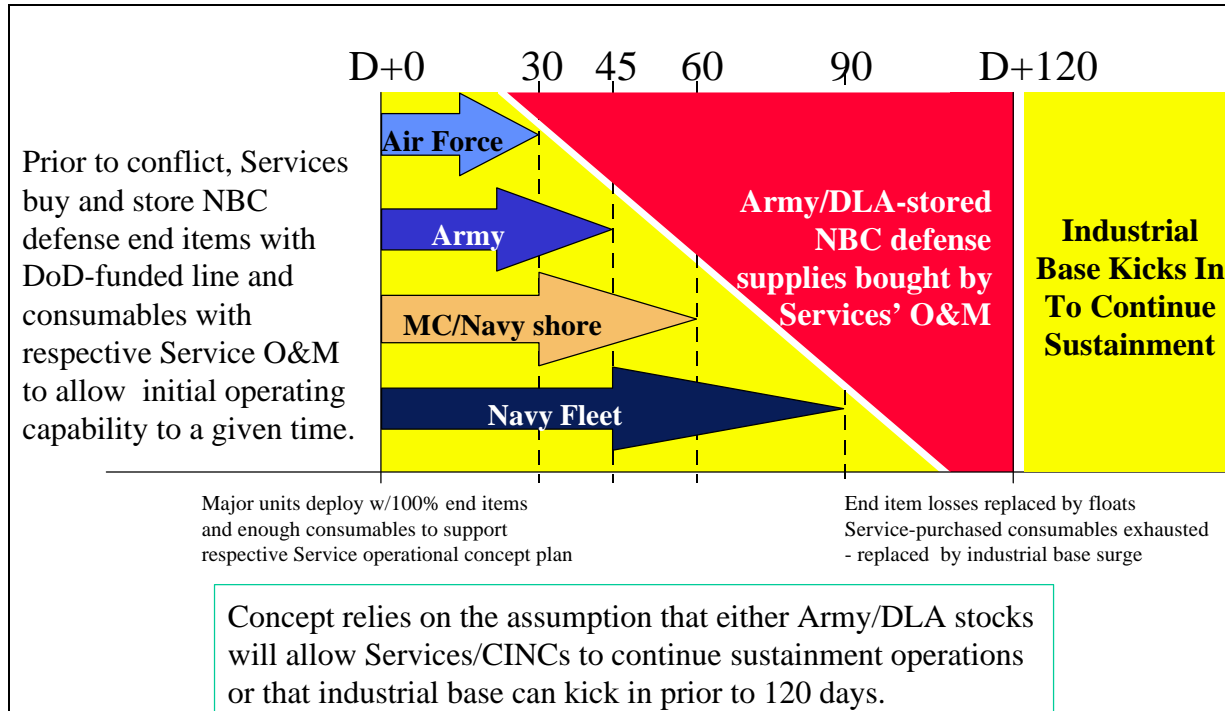


Figure 4-1. War Reserve Requirements and Planning

Service inventories of NBC defense items maintained at unit level use either manual records or a semi-automated tracking system. Stocks held at wholesale level are maintained using a separate automated system. Currently, there is little connectivity between the two systems. As a result, there is limited Service level asset visibility for NBC defense items. The Services are addressing this deficiency under the auspices of TAV, a long-term initiative that will link existing DoD logistics automated systems.

The Army has improved its visibility through an initiative to standardize individual issue of eleven critical NBC defense items across all major commands. In addition, consumable chemical defense equipment for all forces other than Force Package I and other early deploying units will be centrally stored at Bluegrass Army Depot. This seven-year execution plan is managed by HQ AMC and will enable better visibility and rotation of NBC defense consumable items. The Air Force has a similar program that consolidates stocks of NBC defense items for deployment in support of contingency operations. These initiatives have also reduced surveillance costs and improved overall management of NBC defense stocks. The Marine Corps has been leading a joint surveillance Technical Working Group, whose initiatives have been increasing cooperative efforts in surveillance and shelf life programs.

Both DLA and AMC will remain key players in the future NBC defense logistics management system. The Joint NBC Defense Board, through the JSMG, provides coordination and integration based upon the input of all Services' and commanders-in-chief's (CINCs'). DLA and AMC will continue to provide services such as raw data collection, inventory control, and a distribution infrastructure. Upon the validation of JCHEMRATES IV, the Services and DLA can immediately begin plans to improve their readiness and sustainment status based on a common understanding of post-Cold War requirements.

4.3 QUANTITIES, CHARACTERISTICS, AND CAPABILITIES

The results of the data collection efforts are compiled in Tables 4-2 through 4-5 in Appendix 1, Logistics Readiness NBC Report Data, located at the end of this chapter. A table is included for each of the four Services and DLA.

The items listed under "Nomenclature" in Tables 4-2 through 4-5 of Appendix 1 are the currently fielded NBC defense items in the Services. "Total Service Requirements" include the quantity required for the entire Service (to include active and reserve forces), and includes peacetime replacements (wear and tear) and training requirements. The two MTW requirement quantities are those computed by the draft JCHEMRATES IV study (November 1998 data). Materiel requirements for training, sizing variations and peacetime replacements are *not* included in the wartime requirements. This number represents an average expenditure calculated among four scenarios: chemical defense equipment expenditures under low chemical weapons use during favorable and marginal weather conditions; and of chemical defense equipment expenditures of high chemical weapons use during favorable and marginal weather conditions. All sets of conditions were run for the North-East Asia and South-West Asia scenarios.

The "Stocks On-Hand" represents the total of all serviceable NBC defense materiel available in each of the Services (stocks positioned with troops, stocks in the supply system and stocks stored in depots/facilities, both peacetime stores and war reserve). This number includes quantities for which a Service or agency has submitted a funded requisition or purchase order in FY98, but has not received the requisitioned items. Finally, the quantities depicted as "Projected Due-Ins" are quantities the Services plan to buy to replace peacetime consumption of NBC defense assets (to include training use and shelf-life expiration), and to buy wartime sustainment stocks. It must be emphasized that these numbers are based on major command estimates of requirements. Actual procurements will be based on available funding.

4.4 LOGISTICS STATUS

During data collection for the FY98 report, information on the inventory status of 123 fielded NBC defense equipment was compiled. While radiacs have not traditionally been a part of this chapter, they have been added as an effort towards continuity with other chapters and annexes of this report. NBC defense items such as batteries, spare parts, and sub-components were considered a subset of the primary item for risk assessments, and were not reviewed separately. Trainers were not included in the assessment process, since they do not reflect wartime service requirements. We then compared quantities required for wartime needs to

quantities currently on-hand. Characteristics and capabilities of selected fielded NBC defense items are discussed in detail in Annexes A-D of this report. The following items have been added to the current FY98 report:

- AN/VDR-2 Radiac Set
- AN/PDR-75 Radiac Set
- AN/PDR-77 Radiac Set
- AN/UDR-13 Radiac Set
- ADM-300 series Radiacs
- Older radiac sets still in service with the Navy include the AN/PDR-27, AN-PDR-43, AN/PDR-56, AN/PDR-65, CP-95 Radiac Computer-Indicator, CP-95 Radiac, DT-60 and IM-143 Dosimeters (also used by the USAF), and PP-4276/PD charger
- Chemically/Biologically Hardened Air Transportable Hospital/Chemically Protected Deployable Medical System
- Decontaminable Folding Litter
- Medical Equipment Set, Chemical Agent Patient Decontamination Kit
- Patient Chemical Wraps
- Medical antibiotics and chemical defense treatments, to include ciprofloxacin, doxycycline, sodium nitrite and sodium thiosulfate

The Army's M51 Protective Shelter and the Marine Corps's Portable Collective Protection Shelter (PCPS) were dropped from the Report as they were considered unserviceable and no longer in use, respectively. The Marine Corps's Individual Chemical Agent Detector (ICAD) was also dropped as they no longer employ this detector.

Two changes involved standardizing names among the Services. The Air Force Chemical Outfit was retitled with the same name as the DLA's Impregnated Chemical Protective Undergarment, as both had the same NSNs. The Air Force CPO Foot Covers were retitled as the Chemical Protective Footwear Covers in a similar fashion. This creates the perception of eliminating two items, but it is in reality consolidating NBC defense items with the same NSNs.

Of the 123 items extensively reviewed, we developed risk assessments for 50 items based on data gathered as of 30 September 1998 (see Table 4-1). These items were singled out because of their critical role or their ability to represent the general state of their respective commodity area. While some of the items assessed changed from the previous year's report due to obsolescence, assessed items remained as constant as possible to provide for a trend analysis. These were rated as being in a low, moderate, or high risk category. "Risk" is defined as the probability that a shortage in the wartime requirement would exist, severely impacting DoD's ability to respond to a contingency. Shortages were calculated by comparing the two MTW requirements (draft JCHEMRATES IV average requirements as of November 1998) to on-hand quantities, as shown in Tables 4-2 through 4-5.

RISK ASSESSMENT:

Low –	Services have at least 85 percent of wartime requirement on-hand to support two nearly simultaneous major theater wars
Moderate –	Services have between 70 to 84 percent of wartime requirement on-hand to support two nearly simultaneous major theater wars
High –	Services have less than 70 percent of wartime requirement on-hand to support two nearly simultaneous major theater wars

Table 4-1 provides the results of the assessment. Programs rated as high or moderate risk are discussed in greater detail in Appendix 2. A four-year comparison of data assessments is shown in Figure 4-2. In comparison to FY97 report data, the percentage of the FY98 report's items in the low risk category dropped from 61 percent to 58 percent. The percentage of items in moderate risk rose from 17 percent to 20 percent, while the percentage of items in the high risk category remains steady at 22 percent.

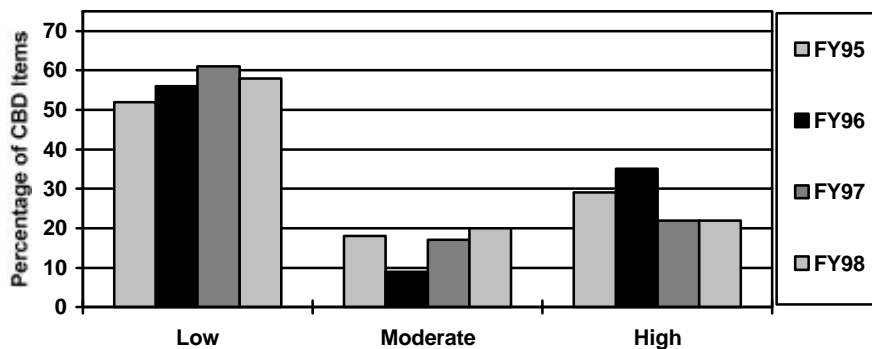


Figure 4-2. Logistic Risk Assessments: 50 NBC Defense Items

While there are only minor changes overall, the following items are highlighted:

- The status of M8A1 chemical agent detectors has improved due to downsized units turning in their equipment, thus resulting in lower overall requirements. The Army's assessment and rebuild program returned 1,600 detectors to units, and another 1,500 are being repaired. The M8A1 detector will remain in the field until its successor, the M22 ACADA, is available in quantities to avoid any shortfalls.
- Limited quantities of M93A1 NBC Recon Systems and M21 RSCAALs continue to constrain early warning chemical reconnaissance and detection capabilities. Continued purchases through FY06 and acquisition of the JSLSCAD and JSLNBCRS will reduce this risk.
- Quantities of BDOs are not adequate to fill the Air Force requirement. The Air Force developed a mitigation plan in concert with procurement of the JSLIST ensembles to minimize risk. The recent plus-up of procurement funds for protective suits has aided in plans to transition to the JSLIST program. Due to the overall DoD WRM stockage of BDOs, the immediate risk is assessed as low. The BDOs will remain in inventory until they reach maximum shelf life.

- With the fielding of JSLIST overgarments, there is a need for additional personnel protection similar to the Army's Second Skin to be applied to the MCU-2/P series masks.
- CWU 66/77P remains the only Air Force capability for air crew ensembles with the end of the Chemical Protective underoverall procurement, and are assessed at moderate risk. Continued planned procurements should correct this assessment in the short term. The Joint Protective Aircrew Ensemble (JPACE), being procured in FY03, will replace this suit.
- The collective protection area is assessed as high risk at this time, in part due to the continued high emphasis on contamination avoidance and individual protection, which overshadows this area. As the procurement cycle in these two latter areas matures, the risk assessment of collective protection systems will lessen slightly.
- With the expiration of M258A1 kits beginning in FY99, the status of M291 kits will become a moderate risk area. Production issues have delayed the delivery of M295 kits to the Services. Inventories remain low. The status of the M291 and M295 kits will improve as procurement funds are released, but this area requires careful monitoring.
- Medical chemical defense materiel remains in low risk. The shortage of Nerve Agent Antidote Kits (NAAK) can be supplemented with existing supplies of atropine and 2-PAM autoinjectors, reducing its risk from moderate to low. These items will gradually be replaced by the Nerve Agent Antidote Delivery System (NAADS) beginning about FY04.
- Execution of the Joint Vaccine Acquisition Program (JVAP), combined with adequate stores of vaccine for the major BW threats, resulted in a lowering of the risk category from high to moderate risk. Continued vigilance is necessary to ensure that the contractors retain FDA-approved capabilities to produce and store vaccines in quantities required to protect the force.

Table 4-1. Logistic Risk Assessments: 50 NBC Defense Items**CONTAMINATION AVOIDANCE/DETECTION EQUIPMENT**

Items	Risk Assessment	Remarks
<i>Radiological</i>		
AN/VDR-2 Radiac Set	Low	USMC is short 22% of requirements
AN/PDR-75 Radiac Set	Low	USMC has less than half of requirements (in both above cases, USA quantities offset risk)
AN/UDR-13 Pocket Radiac	High	Low inventory, still fielding
<i>Biological</i>		
Biological Integrated Detection System (BIDS)	Moderate	Low inventory, still fielding
<i>Chemical</i>		
M256A1 Chemical Agent Detector Kit	Low	Shelf life expiration may reduce stocks in future
M8 Detection Paper	Low	
M8A1 Automatic Chemical Agent Alarm	Low	DoD downsizing has reduced total requirements
M1 Chemical Agent Monitor (CAM)/Improved CAM	Moderate	Low inventory; still fielding
Chemical Agent Point Detection System (CAPDS)	Low	
AN/KAS-1 Chemical Warfare Directional Detector	Low	
M21 Remote Sensing Chemical Agent Alarm (RSCAAL)	High	Low inventory, not being procured
M22 Automatic Chemical Agent Detector/Alarm	High	Low inventory; still fielding
M93A1 NBC Reconnaissance System "Fox"	High	Low inventory; still fielding
Automatic Liquid Agent Detector (ALAD)	Moderate	Low inventory
M272A1 Water Testing Kit	Low	
M274 NBC Marking Set	Low	Meets minimum 2 MTW avg. requirements

INDIVIDUAL PROTECTION

Items	Risk Assessment	Remarks
<i>Masks</i>		
MCU-2/P-series Mask	Low	USAF/USN mask
M40-series General Purpose Mask	Low	USA/USMC mask
M42-series Tank Mask	Low	
M48 Apache Mask	Moderate	Replaces M43-series mask, still fielding
MBU-19/9 Aircrew Eye/Resp. Protection (AERP)	Moderate	Replaces MBU-13/P; still fielding
<i>Suits</i>		
JSLIST protective suits	Moderate	In process of fielding to all Services
Battle Dress Overgarment (BDO)	Low	No further production – being replaced by JSLIST
Saratoga Suit	Low	No further production – being replaced by JSLIST
CWU 66/77P	Moderate	Low inventory; augmented by USAF CPU
Chemical Protective Undercoverall	Low	
Mark III Suit, Collective Protection, Overgarment	Low	No further production – being replaced by JSLIST
Aircrewman Cape	Low	
<i>Gloves/Overboots</i>		
Chemical Protective Gloves (7/14/25-mil)	Low	
Green/Black Vinyl Overshoes (GVO/BVO)	Low	Risk lowered due to chemical protective footwear cover stocks
Chemical Protective Footwear Covers	Low	
Disposable Chemical Protective Footwear Covers	Low	Replaced by GVO/BVO

Note - Only selected Low Risk programs are displayed for information purposes.

COLLECTIVE PROTECTION

Items	Risk Assessment	Remarks
Chemical and Biological Protective Shelter (CBPS)	High	Low inventory, still fielding
M20A1 Simplified Collective Protective Equipment (SCPE)	High	Low inventory, not in production
M28 CPE HUB	High	Low inventory, still in production
M48A1 General Purpose Filter	High	Low inventory
Filter For (M59, M56, Shipboard) (200 CFM)	High	Low inventory

DECONTAMINATION EQUIPMENT

Items	Risk Assessment	Remarks
M258A1 Skin Decontaminating Kit	Low	Stocks will expire in FY99
M291 Skin Decontaminating Kit	Moderate	M258A1 stocks no longer augment M291
M295 Individual Equipment Decontamination Kit	High	Low inventory, still in production
DS-2, M13 Can	High	Low inventory
M11 Decontaminating Apparatus	Low	
M13 Decontaminating Apparatus, Portable	Moderate	Low inventory
M17-series Lightweight Decontamination System (LDS) (to include the A/E32U-8 Decontamination System)	Low	
M12A1 Power Driven Decontamination Apparatus (PDDA)	Moderate	Risk increased due to maintenance rqmts

MEDICAL DEFENSE

Items	Risk Assessment	Remarks
Mark 1 Nerve Agent Antidote Kit (NAAK)	Low	Risk lowered based on autoinjector stocks
Atropine Autoinjector	Low	
2-PAM Chloride Autoinjector	Low	
Nerve Agent Preventative Pyridostigmine (NAPP) Tablet	Low	
Convulsant Antidote Nerve Agent (CANA) Autoinjector	Low	
Biological Warfare Vaccines	Moderate	Prime contract awarded for development, production, FDA licensure, and storage

Note - Only selected Low Risk programs are displayed for information purposes.

Based on the average two MTW requirements identified in the draft JCHEMRATES IV study as of November 1998, the Services continue to exhibit shortages in certain critical areas. Shortages of chemical and biological agent detection systems, collective protection shelters and their respective filters, and biological warfare vaccines may have a serious impact on the joint force's ability to survive and sustain combat operations under NBC warfare conditions operating in two nearly simultaneous MTWs. The extent of the operational impact of NBC defense equipment shortages is under review in several classified studies.

4.5 PEACETIME REQUIREMENTS

In peacetime, quantities of NBC defense equipment are necessary to train personnel in NBC defense and to build confidence that NBC equipment will provide the necessary protection when used correctly. The two most critical areas of peacetime stocks are individual protective equipment and medical chemical defense materiel. The Services have indicated that adequate NBC defense equipment is on-hand to conduct training.

Generally, items used in peacetime for training are drawn from wholesale stocks, requiring units to maintain both training and contingency stocks. For selected items, such as

protective clothing, contingency utility is lost when the item is used (or consumed) for training. Because peacetime training requirements are met in this manner, major commands do not track training equipment in their estimates of on-hand requirements.

4.6 FUNDING

In accordance with the NBC defense management initiatives outlined in Chapter 1, funding of RDT&E and procurement was centralized in a DoD defense-wide account beginning in FY96. Operations and maintenance (O&M) funding for NBC defense materiel is not consolidated at the DoD level. Therefore, for non-major (secondary) end items (*e.g.*, consumables such as decontamination kits, detection kits, and filters), each Service continues to separately fund replenishment and sustainment of NBC defense equipment. Depot maintenance and contractor logistics support for some low density major items are also O&M funded. These appropriations are not included in the joint NBC defense program.

Funding of NBC defense items classified as war reserves secondary items (WRSI) remains a significant issue. The Services are responsible for developing the requirements and funding items in war reserve stocks. Funding of WRSI comes from Congressional appropriations made into the Working Capital Fund (WCF) from the transfer of Services' O&M funds. For example, replenishment of NBC defense items in Army war reserves will require substantial funding from 1999 through 2006 as these items reach their maximum extended shelf lives. Funding will be required to replace the Army and Air Force's current inventories of BDOs with the Joint Service Lightweight Integrated Suit Technology (JSLIST). The Marine Corps, through its normal requirements generation and acquisition process, was able to obtain 100% war reserve of Saratogas for initial projected war reserves requirement (the Marine Corps views the BDO as a secondary protective ensemble). The recent plus-up of funds for protective suits will assist in building an initial stockage and minimum sustainment (war reserve) stock to meet the current defense planning guidance.

Under the current acquisition procedures and DoD guidance to minimize wholesale stockpiles, procurements are based only on funded Service requisitions. The Services remain responsible for program funding to replace NBC defense equipment wartime stocks. Procurement is usually based on economic buy quantities (a consolidation of all Service requisitions) to provide the best value to the government. Some procurements, however, suffer significant delays in delivery because of the time required to accumulate sufficient requisitions to produce economic buy quantities. This situation occurs when item managers try to plan purchases of consumable items that have a low peacetime consumption but high wartime consumption (such as decontamination kits, large collective protection filters and M256A1 detector kits). The result is a low purchasing history with a small industry production capability, which in turn causes a very low war reserve status with minimal industry surge capability. The draft JCHEMRATES IV model will identify more accurate requirements on which the Services can base their planning, once the study is validated and approved.

4.7 INDUSTRIAL BASE

With the end of the Cold War, a smaller DoD force, and subsequently reduced requirements for NBC defense items, lowered purchases of NBC defense consumables continue to threaten the industrial viability of this sector. While the sector is improving, vulnerabilities still exist. Collective protection systems (filters in particular) continue to be the most critical sub-sector in the NBC defense area. Additionally, protective clothing procurement continues to receive intense scrutiny due to the possibility of industrial base shortfalls in satisfying requirements during a contingency. The reluctance of pharmaceutical industries to support DoD CB defense medical programs, coupled with a lack of government vaccine production, represents a serious medical industrial base shortcoming.

These assessments indicate that the NBC defense industrial base sector is primarily supported by small- to medium-sized highly specialized companies dedicated to producing military unique products with little or no commercial utility. These companies have become dependent on Service demands and sales for their financial survival. Selected NBC defense items (BDOs, chemical gloves, and nerve agent autoinjectors) have been designated as critical to combat operations because of low peacetime demand, high wartime use, and the fragile supporting industrial base. As a result, DLA established, with OSD approval, a “War Stopper” program to sustain key industrial base capabilities, utilizing industrial preparedness funding under PE 07080110.

The mission of the Joint Service Integrated Product Team (IPT) for Industrial Base Management and Planning is to assist the Services in identifying problems and issues associated with implementing and executing a Joint Service NBC Defense Industrial Base Management Plan. The IPT will be able to provide DoD decision makers with accurate industrial base information and analyses. It consists of representatives from the JSMG and JSIG, Joint Staff, Office of the Secretary of Defense, logistics representatives and Commodity Area Managers from the four Services and DLA.

The IPT is addressing issues from across the Services for more than 128 items/systems and spare parts critical to readiness. The IPT is conducting analyses to include industrial and technology capabilities, alternative sources of supply, and a financial and economic analysis. These analyses will provide the NBC management structure with alternatives and recommendations within the sub-sectors of NBC defense. To date, all systems were evaluated, with most identified as having no need for further assessments, and 37 as requiring action of some sort. The results of the initial screenings indicate that the M293 Maintenance Kit, the M40 Universal Second Skin, the CWU-66/77 protective suit, the M295 decontamination kit, and diazepam injections require further industrial base studies.

4.8 NBC DEFENSE LOGISTICS SUPPORT ASSESSMENT

ISSUE: The Department of Defense's NBC Defense Program has a full capability to support and sustain the first of two MTWs. Readiness shortfalls that would preclude full support of a second MTW have been identified and will be addressed in the next POM (FY02-07). The Services' modernization efforts and common war reserve requirements will lessen the overall risk over the near term.

SOLUTION: The Services continue to increase their readiness and sustainment status by consolidating common stocks and increasing visibility of their wholesale stocks. In most cases, accelerated procurement of critical items into war reserves will increase readiness against the potential use of weapons of mass destruction.

During 1998, all four Services participated in the continued development of the JCHEMRATES IV study, which is providing a more accurate prediction of the initial issue and sustainment quantities required for each Service. The use of this common methodology will allow the presentation of joint service requirements in future reports and facilitate improved joint logistics management.

ISSUE: DoD continues to lack a joint, integrated system to maintain asset visibility of NBC defense equipment below wholesale level, and lacks a standardized war reserve program for NBC defense equipment. Resourcing the procurement and sustainment of wartime stocks of individual protective equipment, decontamination kits, and detector kits remains the responsibility of the Services.

SOLUTION: DoD established the requirement for asset visibility and reviewed existing systems and procedures, both for peacetime reporting and war time reporting. The Services and DLA are addressing the NBC defense asset visibility deficiency under the auspices of the Total Asset Visibility initiative.

ISSUE: NBC defense industries have a limited ability to augment specific shortfalls during any future contingency, in part due to lowered DoD procurements and the inability to retain warm production lines in critical areas. Without the introduction of significant plus ups or the use of innovative business practices (such as the use of performance specifications and use of ALPHA contracts), many of the small firms that make up this sector may choose to focus entirely on the commercial market place.

SOLUTION: The Department of Defense continues to pursue innovative strategies to maintain a responsive industrial base, especially those strategies that decrease industry reliance on DoD procurement for industrial base survival. Strategies may include tapping into independent research and development (IR&D) conducted by universities and corporations, increasing reliance on dual-use technologies, and pursuing strategies that will encourage companies to decrease dependency on DoD requirements for their survival.

APPENDIX 1.

BREAKOUT OF SERVICE WAR REQUIREMENTS, STOCKS ON-HAND, AND PLANNED ACQUISITIONS

The following tables display NBC defense equipment total Service requirements, their wartime requirements, stocks on-hand quantities to include FY98 quantities on contract, and FY99–00 planned procurements for each of the four Services and Defense Logistics Agency. As mentioned earlier in this chapter, the two MTW requirements are based on the average requirements developed under the draft JCHEMRATES IV study, updated as of November 1998. This study has not yet been approved, but formal acceptance by the Services is anticipated in 1999.

It should be emphasized that the JCHEMRATES IV study's two MTW requirement is not and should not be considered a procurement target. This study did not fully consider air transport into theaters of conflict or Navy fleet requirements for ships at sea. While the Services in general agree with the methodology and intent of the study, it may require further refinement prior to becoming a fully accepted planning tool. The MTW requirement does not consider peacetime training requirements, sizing requirements, or full procurement to the entire active and Reserve forces. The MTW requirement does denote a minimum planning number, which if the total DoD inventory drops below, may represent a critical shortfall for that particular item, which should be immediately addressed to avoid diminishing the force's NBC defense capability.

Because of this limitation in the study, the Services have identified their total Service requirements as their procurement targets, while acknowledging JCHEMRATES as a necessary step in joint service management of the NBC defense program. The Services continually update these data call sheets on a frequent basis and consider these working papers rather than a static set of figures. The Services and DLA are working through the FY99 Joint Service NBC Defense Logistics Support Plan to update all figures and to provide 100% of the information required for logistics readiness and sustainment assessments.

Table 4-2a. Army Logistics Readiness Data - Nonconsumables

NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	PROJECTED DUE INS					
					FY99	FY00	FY01	FY02	FY03	FY04
INDIVIDUAL PROTECTION COMMODITY AREA										
CB MASK										
MASK, CB, M17A2	4240-01-143-2017-20	218,274	0	733,806	0	0	0	0	0	0
MASK, CB, M40/M40A1	4240-01-258-0061-63	508,832	308,295	1,036,297	0	0	0	0	0	0
MASK, M24, AVIATOR	4240-00-776-4384	46,391	0	53,530	0	0	0	0	0	0
MASK, M25A1, TANK	4240-00-994-8751-52	17,642	0	132,138	0	0	0	0	0	0
MASK, M42, TANK	4240-01-258-0064-66	96,249	18,514	208,977	0	0	0	0	0	0
MASK, M43, APACHE	4240-01-208-6966-69	4,553	710	3,127	0	0	0	0	0	0
MASK, M45, AVIATOR	4240-01-141-4034-52	9,500	1,844	13	0	0	0	0	0	0
MASK, M48, APACHE	4240-01-386-0198	5,801	1,844	191	0	0	0	0	0	0
MASK, M49	4240-01-413-4095-99	12,744	1,844	13,591	0	0	0	0	0	0
MISC PROTECTION										
PATS, M41	4240-01-365-8241	2,534	3,334	5,523	0	0	0	0	0	0
CONTAMINATION AVOIDANCE COMMODITY AREA										
RADIOLOGICAL DETECTION EQUIPMENT										
AN/PDR-75	6665-01-211-4217	6,039	5,445	7,378	0	0	0	0	0	0
AN/PDR-77	6665-01-347-6100	685	532	1,131	0	0	0	0	0	0
AN/UDR-13	6665-01-407-1237	1,861	26,901	458	2,376	2,863	2,926	4,211	8,673	12,849
AN/VDR-2	6665-01-222-1425	36,974	33,405	47,320	39	0	0	0	0	0
BIOLOGICAL DETECTION EQUIPMENT										
BIDS, M31	6665-01-392-6191	124	85	55	28	21	20	0	0	0
LR-BSDS, M34	6665-00-422-6605	24	10	4	0	4	4	3	0	0
CHEMICAL DETECTION EQUIPMENT										
ACADA, M22	6665-01-348-6963	28,839	28,839	1,724	1,540	4,668	7,274	0	0	0
ALARM, CAA, M8A1	6665-01-105-5623	27,755	28,000	29,958	0	0	0	0	0	0
CAM/ICAM	6665-01-357-8502	18,817	18,817	9,391	839	2,239	2,974	0	0	0
M21 RSCAAL	6665-01-334-6637	123	123	97	0	0	0	0	0	0
NBC RECON SYS, M93A1	6665-01-372-1303	123	123	43	12	15	15	4	4	17
DECONTAMINATION COMMODITY AREA										
DECON APPAR, M11	4230-00-720-1618	18,980	37,287	32,274	0	0	0	0	0	0
DECON APPAR, M13	4230-01-133-4124	226,800	111,125	31,338	16,653	0	0	0	0	0
DECON APPAR, PDDA, M12A1	4230-00-926-9488	682	129	477	0	0	0	0	0	0
L/WT DEC SYS, M17A1	4230-01-303-5225	1,327	2,516	2,598	30	0	0	0	0	0
COLLECTIVE PROTECTION COMMODITY AREA										
CP DEPMEDS (HUB, CP, M28)	4240-01-395-5179	17	16	5	1	1	1	1	1	1
SHELTER, CB PROTECT	5410-01-441-8054	792	792	95	41	36	39	43	43	57
SHELTER, CP, M20/M20A1	4240-01-166-2254	2,019	1,747	626	23	0	0	0	0	0
MEDICAL COMMODITY AREA										
LITTER, DECONTAMINABLE	6530-01-380-7309			6,026	1,052	0	0	0	0	0

Table 4-2b. Army Logistics Readiness Data – Consumables

NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	PROJECTED DUE INS	
					FY99	FY00
INDIVIDUAL PROTECTION COMMODITY AREA						
OVERGARMENTS						
CHEM PROT UNDERGARMENT	8415-01-363-8692-00 8415-01-363-8683-91	728,718	254,312	132,757	173,413	169,464
JSLIST (ABDO) 45 DAYS	8415-01-444-1163 8415-01-444-5902	2,346,809	1,582,994	619	0	0
SCALP (TAN AND GREEN)	8415-01-364-3320-22 8415-01-364-3458-60	10,065	122,256	3,122	0	0
SUIT, CP CAMO (BDOs)	8415-01-137-1700-07	0	0	4,727,163	106,852	0
OVERBOOTS/GLOVES						
BLK/GRN VINYL OVERBOOTS	8430-01-317-3374-85	7,412,697	2,242,434	2,678,278	3,041	0
CP FOOTWEAR COVERS	8430-01-021-5978	1,028,707	0	641,791	7,094	0
CP GLOVES 7 MIL	8415-01-138-2501-04	473,041	121,741	254,204	0	0
CP GLOVES 14 MIL	8415-01-138-2497-00	1,067,558	486,963	797,789	0	0
CP GLOVES 25 MIL	8415-01-033-3517-20	6,270,220	3,368,247	5,702,880	5,718	0
MISC PROTECTION						
2D SKIN, M40 SERIES	4240-01-413-1540	812,709	354,231	194,415	10,081	0
CP HELMET COVER	8415-01-111-9028	1,320,556	4,085,749	530,325	35,575	0
FILTER CAN, C2A1	4240-01-361-1319	1,764,884	710,196	1,464,905	58	0
FILTER CAN, M10A1	4240-00-127-7186	196,464	0	77,969	1,523	0
FILTER ELEMENT, M13A2	4240-00-165-5026	584,511	0	377,722	0	0
HOOD, M40	4240-01-376-3152	3,534,562	1,046,139	1,401,518	15,252	0
HOOD, M5 (FOR M25A1)	4240-00-860-8987	46,316	0	24,902	0	0
HOOD, M6A2 (FOR M17)	4240-00-999-0420	733,910	0	491,311	0	0
HOOD, M7 (FOR M24)	4240-00-021-8695	44,172	0	45,514	2,424	0
CONTAMINATION AVOIDANCE COMMODITY AREA						
CHEMICAL DETECTION EQUIPMENT						
DET KIT, M256A1	6665-01-133-4964	198,290	38,587	64,689	2,462	0
DET PAPER, M8	6665-00-050-8529	1,348,777	1,840,515	1,621,206	14,852	0
DET PAPER, M9	6665-01-226-5589	1,797,646	1,817,497	538,915	5,026	0
MAINT KITS, M293/M273	5180-01-379-6409 5180-01-108-1729	93,422	37,708	15,168	2,261	0
NBC MARK SET, M274	9905-12-124-5955	38,733	2,986	46,087	8	0
WATER TEST KIT, M272A1	6665-01-134-0885	8,778	7,730	7,956	4	0
DECONTAMINATION COMMODITY AREA						
DECON KIT, M258A1	4230-01-101-3984	834,253	0	250,577	136	0
DECON KIT, M291	4230-01-276-1905	1,147,688	150,511	284,162	4,050	0
DECON KIT, M295	4230-01-357-8456	752,595	150,441	63,143	0	0
DS2, 1 1/3 QT	6850-00-753-4827	224,797	625,770	200,061	0	0
DS2, 5 GAL	6850-00-753-4870	314,155	4,852,261	315,910	7	0
DS2, M13 CAN	4230-01-136-8888	154,609	1,971,215	109,962	68	0
STB, 50 LB	6850-00-297-6653	7,321	4,651	12,110	14	0

Table 4-2b. Army Logistics Readiness Data - Consumables

NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	PROJECTED DUE INS	
					FY99	FY00
COLLECTIVE PROTECTION COMMODITY AREA						
FILTER, CP M12A2 (M14 GPFU)	4240-01-365-0981	12,180	8,342	4,726	0	0
FILTER, CP M13 SERIES (M14 GPFU)	4240-00-368-6291	11,200	8,342	3,638	0	0
FILTER, CP M18A1	4240-00-365-0982	32,370	40,196	15,264	0	0
FILTER, CP M19	4240-00-866-1825	19,236	34,779	8,364	0	0
FILTER, GP M48A1	4240-01-363-1311	10,350	10,553	2,499	0	0
FILTER SET FOR (M59, M56, SHIPBOARD)	4240-01-369-6533	218	687	125	0	0
MEDICAL COMMODITY AREA						
2-PAM CHLORIDE AUTOINJ	6505-01-125-3248	99,666	1,055,520	1,260,789	0	0
ATROPINE AUTOINJ	6505-00-926-9083	99,666	1,055,520	561,732	0	0
CANA AUTOINJ	6505-00-274-0951	290,106	1,228,345	558,656	185,187	185,187
NAAK, MKI	6705-01-174-9919	504,878	1,885,775	923,410	222,189	0
PYRIDOSTIGIMINE TAB	6505-01-178-7903	76,254	1,408,778	421,470	11,866	11,866
PATIENT WRAPS	6530-01-383-6260		58,176	9,175	0	0
MES CHEM AG PAT DECON	6545-01-176-4612			394	104	0
OTHER TREATMENTS						
CYPROFLOXACIN	6505-01-272-2385 6505-01-273-8650 6506-01-333-4154			42,270 27,622 398	0	0
DOXYCYCLINE CAPS	6505-01-153-4335			96	0	0
SODIUM NITRITE	6505-01-206-6009			20,034	0	0
SODIUM THIOSULFATE	6505-01-334-8781			1	0	0

Table 4-3a. Air Force Readiness Data – Non-Consumables

NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	PROJECTED DUE INS					
					FY99	FY00	FY01	FY02	FY03	FY04
INDIVIDUAL PROTECTION COMMODITY AREA										
CB MASK										
MASK, AERP	8475-01-339-9782(S)	29,879	29,879	21,542	6,068	200	112	0	0	0
MASK, CB, M17A2	4240-01-143-2017-20	1,625	5,132	2,600	0	0	0	0	0	0
MASK, MCU-2/P, MASK, MCU-2A/P	4240-01-415-4239-41 4240-01-284-3615-17	345,856	345,856	344,880	20,002	2,045	0	0	0	0
MISC PROTECTION										
PATS, M41	4240-01-365-8241	1,208	1,208	500	112	258	435	0	0	0
CONTAMINATION AVOIDANCE COMMODITY AREA										
RADIOLOGICAL DETECTION EQUIP										
ADM 300-A KIT	6665-01-362-6213NW	300	117	265	20	20	0	0	0	0
-B KIT	6665-01-342-7747NW	800	597	899	25	39				
-C KIT	6665-01-320-4712NW	750	518	900						
-E KIT	6665-01-426-5071NW	250	119	239	10	20				
CHEMICAL DETECTION EQUIP										
ACADA, M22	6665-01-348-6963	2,140	2,140	177	220	50	25	0	0	0
ALARM, CAA, M8A1	6665-01-105-5623	423	331	0	0	0	0	0	0	0
CAM/ICAM	6665-01-357-8502	125	108	98	8	10	0	0	0	0
CHEM AGENT MONITOR/ICAM	6665-01-199-4153	1,000	1,960	450	838	672	10	0	0	0
M90 CWA	6665-01-408-5108	65	58	60	0	0	0	0	0	0
DECONTAMINATION COMMODITY AREA										
A/E32U-8 DECON SYS	4230-01-153-8660	175	0	169	8	0	0	0	0	0
L/WT DEC SYS, M17	4230-01-251-8702	299	0	300	0	0	0	0	0	0
L/WT DEC SYS, M17A1	4230-01-303-5225	50	0	48	0	0	0	0	0	0
L/WT DEC SYS, M17A2	4230-01-	380								
L/WT DEC SYS, M17A3	4230-01-346-3122	100	157	100	0	0	0	0	0	0
COLLECTIVE PROTECTION COMMODITY AREA										
CHATH (SHELTER, CP, M28)	NOT ASSIGNED	21	20	1	10	10	0	0	0	0
KMU-450 SHEL MOD KIT	4240-01-044-7659	25	16	25	0	0	0	0	0	0

Table 4-3b. Air Force Logistics Readiness Data - Consumables

					PROJECTED DUE INS	
NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	FY99	FY00
INDIVIDUAL PROTECTION COMMODITY AREA						
OVERGARMENTS						
AIRCREWMAN CAPE	8415-01-040-9018	290,014	278,664	300,001	5,000	12,012
CLOTHING TEST KIT	6630-00-783-8192	200	167	9	0	0
CP UNDERCOVERALL	8415-01-040-3141	75,000	67,376	95,777	500	258
IMPREG UNDERGARMENT	8415-00-782-3242-5	5,000	5,000	4,925	0	0
JSLIST (ABDO) 45 DAYS	8415-01-444-1163 8415-01-444-5902	1,220,638	1,220,638	0	125,000	125,000
SUIT, AIRCREW, CWU-66/77P	8475-01-328-3454(S)	96,545	96,545	65,000	30,000	15,000
SUIT, CP CAMO (BDO)	8415-01-137-1700-07	0	801,167	558,701	54,425	17,252
SUIT, CP CAMO-DESERT 3 clr	8415-00-327-5347-53	0	13,878	57	0	0
SUIT, CP CAMO-DESERT 6 clr	8415-01-324-3084-91	0	23,656	36,085	1,996	0
OVERBOOTS/GLOVES						
BLK/GRN VINYL O/BOOTS	8430-01-317-3374-85	1,012,127	556,574	1,442,927	84,283	27,002
CP FOOTWEAR COVERS	8430-01-118-8172 (S) 8430-01-021-5978 (L)	154,802	106,612	200,005	2,005	5,697
CP GLOVES 7 MIL	8415-01-138-2501-04	226,002	167,619	341,003	21,006	7,014
CP GLOVES 14 MIL	8415-01-138-2497-00	1,834,565	653,715	2,279,351	537,229	106,024
CP GLOVES 25 MIL	8415-01-033-3517-20	90,000	12,960	122,380	3,056	90
CP SOCKS	8415-01-040-3169	200,056	170,768	199,070	3,111	787
DISP FOOTWEAR COVER	8430-00-580-1205	201,980	185,771	225,000	15,000	2,903
GLOVE INSERTS	8415-00-782-2809 (S)	2,245,876	1,688,335	2,441,469	330,002	75,000
MISC PROTECTION						
FILTER CAN, C2/C2A1	4240-01-119-2315	1,998,925	407,526	2,776,246	300,900	132,977
FILTER ELEMENT, M13A2	4240-00-165-5026	6,500	41,056	2,567	0	0
HOOD, M6A2 (FOR M17)	4240-00-999-0420	95,093	76,707	69,357	0	0
HOOD, MCU-2/P	4240-01-189-9423	2,225,189	851,056	3,071,242	49,707	81,000
MICS (COOL SYSTEM)	4240-01-298-4140YR	100	21	0	59	35
MICS VEST	8415-01-217-5634	1,110	80	1,410	0	0
CONTAMINATION AVOIDANCE COMMODITY AREA						
CHEMICAL DETECT EQUIP						
DET KIT, M18A2 KIT	6665-00-110-9492	100	37	62	29	38
DET KIT, M256A1	6665-01-133-4964	50,123	1,300	25,045	490	122
DET PAPER, M8	6665-00-050-8529	454,096	209,953	992,378	10,890	7,888
DET PAPER, M9	6665-01-049-8982 6665-01-226-5589	50,606 310,345	 249,650	40,308 300,090	302 30,000	16,699 12,090
MAINTENANCE KIT, M293	5180-01-379-6409	90	0	65	39	25
NBC MARK SET, M274	9905-12-124-5955	725	2,200	700	55	100
WATER TEST KIT, M272A1	6665-01-134-0885	100	445	115	10	19

Table 4-3b. Air Force Logistics Readiness Data – Consumables

					PROJECTED DUE INS	
NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	FY99	FY00
DECONTAMINATION COMMODITY AREA						
CALCIUM HYPOCHLORITE	6810-00-255-0471	625	625	55	0	0
DECON KIT, M258A1	4230-01-101-3984	725,370	0	521,675	200,180	199,000
DECON KIT, M291	6850-01-276-1905	1,800,000	1,800,000	274,080	250,000	250,000
DECON KIT, M295	6850-01-357-8456	1,000,000	1,000,000	41,840	150,000	150,000
DRY SORBENT POWDER	6850-01-262-0484	1,150	100	55	992	194
SODIUM HYPOCHLORITE	6810-00-589-7316	100	625	100	0	0
STB	6850-00-297-6653	350	440	300	0	0
COLLECTIVE PROTECTION COMMODITY AREA						
FILTER, CP M13 SERIES (M14 GPFU)	4240-00-368-6291	0	0	0	0	0
FILTER, GP M48A1	4240-01-363-1311	0	4	0	0	0
FILTER SET FOR (M59, M56, SHIPBOARD)	4240-01-369-6533	0	0	0	0	0
MEDICAL COMMODITY AREA						
2-PAM CHLORIDE AUTOINJ	6505-01-125-3248	84,951	316,716	769,903	185,376	159,213
	6505-01-080-1986			14,616	3,782	3,066
ATROPINE AUTOINJ	6505-00-926-9083	184,860	316,716	805,462	178,315	163,963
	6505-00-299-9673			18,138	5,505	7,881
CANA AUTOINJ	6505-00-274-0951	64,620	105,572	265,339	155,295	140,211
NAAK, MKI	6705-01-174-9919	2,947	0	140	0	16
PYRIDOSTIGIMINE TAB	6505-01-178-7903	26,731	50,272	71,845	0	0
TETRACYCLINE	6505-00-655-8356	0	44,311	40,821	10,029	8,475
OTHER TREATMENTS						
CIPROFLOXACIN	6505-01-273-8650			27,530	76,403	34,644
	6505-01-333-4154			9,059	6,504	4,854
SODIUM NITRITE	6505-01-206-6009			0	60	20
SODIUM THIOSULFATE	6505-01-206-6010			32	21	13

Table 4-4a. Navy Logistics Readiness Data - Non-Consumables

					PROJECTED DUE INS					
NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	FY99	FY00	FY01	FY02	FY03	FY04
INDIVIDUAL PROTECTION COMMODITY AREA										
CB MASK										
MASK, MCU-2/P	4240-01-173-3443	8,863	27,576	4,601	0	0	0	0	0	0
MASK, MCU-2A/P	4240-01-284-3615/17	3,928		3,093	0	0	0	0	0	0
MASK, MCU-2A/P (WR) USN	4240-00-327-4148-50	189,094		200,086	0	0	0	0	0	0
CONTAMINATION AVOIDANCE COMMODITY AREA										
RADIOLOGICAL DETECTION EQUIP										
AN/PDR-27	6665-00-543-1435	1,642	953	1,556	0	0	0	0	0	0
AN/PDR-43	6665-00-580-9646	3,782	948	3,022	0	0	0	0	0	0
AN/PDR-56	6665-00-086-8060	163	76	218	0	0	0	0	0	0
AN/PDR-65	6665-01-279-7516	370	299	436	0	0	0	0	0	0
CP-95	6665-00-526-8645	29,782	386	20,031	0	0	0	0	0	0
PP-4276	6665-00-489-3106	6,054	377	4,009	0	0	0	0	0	0
IM-143	6665-00-764-6395	10,734	6,679	17,692	0	0	0	0	0	0
DT-60	6665-00-978-9637	135,344	74,686	112,957	0	0	0	0	0	0
BIOLOGICAL DETECTION EQUIP										
IBAD	NOT ASSIGNED	25	25	20	0	0	0	0	0	0
CHEMICAL DETECTION EQUIP										
ACADA, M22	6665-01-348-6963	300	300	0	142	80	78	0	0	0
ALARM, CAA, M8A1	6665-01-105-5623	262	128	262	0	0	0	0	0	0
CAPDS	6665-01-294-2556	230	230	225	0	0	0	0	0	0
CHEM AGENT MONITOR/ICAM	6665-01-199-4153	545	250	0	250	0	0	0	0	0
CWDD, AN/KAS-1	5855-01-147-4362	376	401	366	0	0	0	0	0	0
IPDS	NOT ASSIGNED	234	234	32	28	28	45	43	40	38
M21 RSCAAL	6665-01-334-6637	142	98	0	0	0	0	0	0	0
DECONTAMINATION COMMODITY AREA										
DECON APPAR, M11	4230-00-720-1618	2,078	1,250	960	0	0	0	0	0	0
L/WT DEC SYS M17A3 DIESEL	4230-01-346-3122	138	137	5	0	0	0	0	0	0
COLLECTIVE PROTECTION COMMODITY AREA										
SHELTER, CP, M20/M20A1	4240-01-166-2254	670	40	205	40	0	0	0	0	0

Table 4-4b. Navy Logistics Readiness Data – Consumables

NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	PROJECTED DUE-INS	
					FY99	FY00
INDIVIDUAL PROTECTION COMMODITY AREA						
OVERGARMENTS						
IMPREG UNDERGARMENT	8415-00-782-3242-5	240	240	0	0	0
JSLIST (ABDO) 45 DAYS	8415-01-444-1163 8415-01-444-5902	319,000 339,000	69,768 339,000	2,800	0 81,504	0 88,121
SUIT, CP, OG MK3	8415-00-214-8289-92	0	289,665	214,556	0	0
OVERBOOTS/GLOVES						
BLK/GRN VINYL O/BOOTS	8430-01-317-3374-85	168,846	109,519	175,534	0	0
CP FOOTWEAR COVERS	8430-01-118-8172 (S) 8430-01-021-5978 (L)	 339,000	 339,000	13,058 121,993	0	0
CP GLOVES 7 MIL	8415-01-138-2501-04	0	56,472	0	0	0
CP GLOVES 25 MIL	8415-01-033-3517-20	339,000	339,000	330,782	0	0
CP SOCKS	8415-01-040-3169	0	177,248	0	0	0
DISP FOOTWEAR COVER	8430-00-580-1205	0	177,248	0	0	0
GLOVE INSERTS	8415-00-782-2809	478,000	478,000	254,739	0	0
MISC PROTECTION						
CP HELMET COVER	8415-01-111-9028	0	55,152	0	0	0
FILTER CAN, C2/C2A1	4240-01-119-2315	480,000	480,000	315,204	0	0
HOOD, MCU-2/P	4240-01-189-9423	0	63,408	0	0	0
CONTAMINATION AVOIDANCE COMMODITY AREA						
CHEMICAL DETECT EQUIP						
DET KIT, M256A1	6665-01-133-4964	10,235	159	10,077	0	0
DET PAPER, M8	6665-00-050-8529	91,567	49,220	48,059	0	0
DET PAPER, M9	6665-01-226-5589	30,902	68,132	36,569	0	0
NBC MARK SET, M274	9905-12-124-5955	522	22	480	0	0
TUBE PHOSGENE	6665-01-010-7965	1,207	1,596	1,750	0	0
WATER TEST KIT, M272A1	6665-01-134-0885	421	77	290	0	0
DECONTAMINATION COMMODITY AREA						
CALCIUM HYPOCHLORITE	6810-00-255-0471	9,001	9,001	3,618	0	0
DECON KIT, M258A1	4230-01-101-3984	26,402	0	19,944	0	0
DECON KIT, M291 (20 PER)	4230-01-276-1905	124,410	3,170	156,188	0	0
DECON KIT, M295 (20 PER)	4230-01-357-8456	0	1,585	0	0	0
DS2, 5 GAL	6850-00-753-4870	0	12,160	0	0	0
SODIUM HYPOCHLORITE	6810-00-598-7316	0	613	0	0	0
STB	6850-00-297-6653	37	1,437	0	0	0
COLLECTIVE PROTECTION COMMODITY AREA						
FILTER, GP M48A1	4240-01-363-1311	0	293	0	0	0
FILTER SET (FOR M59, M56, SHIPBOARD)	4240-01-369-6533	0	586	0	0	0
PRE-FILTER, SHIPBOARD CPE	4240-01-066-3266	23,655	293	9,176	1,848	1,428

Table 4-4b. Navy Logistics Readiness Data - Consumables

					PROJECTED DUE-INS	
NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	FY99	FY00
MEDICAL COMMODITY AREA						
2-PAM CHLORIDE AUTOINJ	6505-01-125-3248	19,521	95,112	227,529	0	0
ATROPINE AUTOINJ	6505-00-926-9083	19,521	95,112	337,580	0	0
CANA AUTOINJ	6505-00-274-0951	6,507	31,704	38,984	0	0
NAAK, MK1	6705-01-174-9919	19,521	95,112	17,384		
PYRIDOSTIGIMINE TAB	6505-01-178-7903	65,068	15,097	50,696	0	0
TETRACYCLINE	6505-00-655-8356	0	3,271	0	0	0
OTHER TREATMENTS						
CIPROFLOXACIN	6505-01-273-8650			540	0	0
	6505-01-333-4154			239		
DOXYCYCLINE CAPS	6505-00-009-5060			2,214	0	0
	6505-00-009-5063			7,811		
SODIUM NITRITE	6505-01-206-6009			4	0	0
SODIUM THIOSULFATE	6505-01-334-8781			4	0	0

Table 4-5a. Marine Corps Logistics Readiness Data – Non-Consumables

NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	PROJECTED DUE INS					
					FY99	FY00	FY01	FY02	FY03	FY04
INDIVIDUAL PROTECTION COMMODITY AREA										
CB MASK										
MASK, CB, M40/M40A1	4240-01-258-0061-63	227,069 (total roll-up of mask rqmts)	71,474	199,137	30,000	0	0	0	0	0
MASK, CB, M17A2	4240-01-143-2017-20		0	19,737	0	0	0	0	0	0
MASK, M24, AVIATOR	4240-00-776-4384		0	4,307	0	0	0	0	0	0
MASK, M25A1, TANK	4240-00-994-8750-52		0	612	0	0	0	0	0	0
MASK, M42, TANK	4240-01-258-0064-66		4,174	5,214	0	0	0	0	0	0
MASK, MCU-2/P	4240-01-415-4239-41		0	98	0	0	0	0	0	0
MISC PROTECTION										
MASK COMM ADAPTOR	5996-01-377-9695	50,000	50,000	21,393	34,000	0	0	0	0	0
PATS, M41	4240-01-365-8241	258	258	258	0	0	0	0	0	0
CONTAMINATION AVOIDANCE COMMODITY AREA										
RADIOLOGICAL DETECTION EQUIP										
AN/PDR-75	6665-01-211-4217	1,203	1,203	681	0	0	0	0	0	0
AN/VDR-2	6665-01-222-1425	2,343	2,343	1,826	0	0	0	0	0	0
CHEMICAL DETECTION EQUIP										
ACADA, M22	6665-01-348-6963	579	579	0	460	119	0	0	0	0
ALARM, CAA, M8A1	6665-01-105-5623	28	28	20	0	0	0	0	0	0
CAM/ICAM 1.5	6665-01-359-9006	1,854	1,854	1,854	0	0	0	0	0	0
CAM/ICAM 2.0	6665-99-725-9996	875	875	875	0	0	0	0	0	0
M21 RSCAAL	6665-01-334-6637	151	472	125	0	0	0	0	0	0
NBC RECON SYS, M93	6665-01-323-3582	10	10	10	0	0	0	0	0	0
DECONTAMINATION COMMODITY AREA										
DECON APPAR, M11	4230-00-720-1618	21,050	7,056	43,271	0	0	0	0	0	0
DECON APPAR, M13	4230-01-133-4124	1,600	16,864	17,555	0	0	0	0	0	0
DECON APPAR, PDDA, M12A1	4230-00-926-9488	0	0	70	0	0	0	0	0	0
L/WT DEC SYS, M17A1	4230-01-303-5225	344	0	344	0	0	0	0	0	0
L/WT DEC SYS, M17A3	4230-01-346-3122	884	1,350	884	0	0	0	0	0	0
COLLECTIVE PROTECTION COMMODITY AREA										
**										

** - Note: The Marine Corps has stopped using the Portable Collective Protection System; therefore there are no collective protection systems to report.

Table 4-5b. Marine Corps Logistics Readiness Data - Consumables

NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	PROJECTED DUE INS	
					FY99	FY00
INDIVIDUAL PROTECTION COMMODITY AREA						
OVERGARMENTS						
JSLIST (ABDO) 45 DAYS	8415-01-444-1163 8415-01-444-5902	696,000 (total roll-up of rqmts)	286,457	23,905	7,000	7,000
SUIT, CP CAMO (BDO)	8415-01-137-1700-07		0	174,020	0	0
SUIT, CP, SARATOGA	8415-01-333-7573-76		596,131	629,776	0	0
SUIT, CP, SARATOGA DESERT	8415-01-333-7577-80		50,000	0	0	0
OVERBOOTS/GLOVES						
BLK/GRN VINYL O/BOOTS	8430-01-317-3374-85	654,000	505,812	273,846	0	0
CP FOOTWEAR COVERS	8430-01-021-5978	0	0	368,825	0	0
CP GLOVES 25 MIL	8415-01-033-3517-20	654,000	646,820	715,125	0	0
MISC PROTECTION						
2D SKIN, M40 SERIES	4240-01-413-1540	277,069	109,514	23,696	51,000	0
CP HELMET COVER	8415-01-111-9028	0	425,531	0	0	0
FILTER CAN, C2/C2A1	4240-01-119-2315 4240-01-361-1319	554,246	152,546	206,845	0	0
FITLER CAN, M10A1	4240-00-127-7186	2,468	0	2,468	0	0
FILTER ELEMENT, M13A2	4240-00-165-5026	27,766	0	27,766	0	0
HOOD, M40	4240-01-376-3152	0	197,065	199,137	0	0
HOOD, M5 FOR M25A1	4240-00-860-8987	867	0	867	0	0
HOOD, M6A2 FOR M17	4240-00-999-0420	25,973	0	29,753	0	0
HOOD, M7 (FOR M24)	4240-01-021-8699	323	0	323	0	0
HOOD, MCU-2/P	4240-01-189-9423	0	0	0	0	0
CONTAMINATION AVOIDANCE COMMODITY AREA						
CHEMICAL DETECT EQUIP						
DET KIT, M256A1	6665-01-133-4964	6,324	19,493	4,841	0	0
DET PAPER, M8	6665-00-050-8529	12,654	201,547	12,654	0	0
DET PAPER, M9	6665-01-049-8982 6665-01-226-5589	189,747	317,903	10,565	0	0
MAINTENANCE KIT, M293	5180-01-379-6409	0	0	0	0	0
NBC MARK SET, M274	9905-12-124-5955	2,286	2,204	209	0	0
WATER TEST KIT, M272A1	6665-01-134-0885	3,159	920	776	0	0
DECONTAMINATION COMMODITY AREA						
DECON KIT , M258A1	4230-01-101-3984	201,568	0	88,627	0	0
DECON KIT, M291	4230-01-276-1905	408,220	25,826	340,876	0	0
DS2, 1 1/3 QT	6850-00-753-4827	4,453	14,112	13,648	0	0
DS2, 5 GAL	6850-00-753-4870	7,252	289,223	5,359	0	0
DS2, M13 CAN	4230-01-136-8888		23,920		0	0
NITROGEN CYLINDERS	4230-00-775-7541	2,316	15,847	13,081	0	0
STB	6850-00-297-6653	7,410	1,202	401	0	0

Table 4-5b. Marine Corps Logistics Readiness Data – Consumables

NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	PROJECTED DUE INS	
					FY99	FY00
COLLECTIVE PROTECTION COMMODITY AREA						
FILTER, CP M12A2 (M14 GPFU)	4240-01-365-0981	115	847	0	0	0
FILTER, CP M13 SERIES (M14 GPFU)	4240-00-368-6291	115	847	0	0	0
FILTER, CP M18A1	4240-00-365-0982	437	2,352	0	0	0
FILTER, CP, M19	4240-00-866-1825	219	1,176	0		
FILTER, GP M48A1	4240-01-363-1311	233	488	0	0	0
FILTER SET FOR (M59, M56, SHIPBOARD)	4240-01-369-6533	0	0	0	0	0
MEDICAL COMMODITY AREA						
2-PAM CHLORIDE AUTOINJ	6505-01-125-3248	291,216	271,135	291,216	0	0
ATROPINE AUTOINJ	6505-00-926-9083	205,344	271,135	205,344	0	0
CANA AUTOINJ	6505-00-274-0951	93,336	66,026	93,336	0	0
NAAK, MKI	6705-01-174-9919	0	354,800	0	0	0
PYRIDOSTIGIMINE TAB	6505-01-178-7903	93,336	0	93,336	0	0

Table 4-6. Defense Logistics Agency Logistics Readiness Data - Consumables

NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	PROJECTED DUE INS	
					FY99	FY00
INDIVIDUAL PROTECTION COMMODITY AREA						
OVERGARMENTS						
AIRCREWMAN CAPE	8415-01-040-9018	N/A	N/A	27,534	0	0
IMPREG UNDERGARMENT	8415-00-782-3242-5	N/A	N/A	6,226	0	0
JSLIST SUITS	8415-01-444-1200-70 8415-01-444-5504-98	N/A	N/A	0	42,000	41,000
SCALP (TAN AND GREEN)	8415-01-364-3320-22 8415-01-364-3458-60	N/A	N/A	1,248 27,113	0	0
SUIT, AIRCREW, CWU-66/77P	8475-01-328-3454(S)	N/A	N/A	0	4,000	25,000
SUIT, CP CAMO (BDO)	8415-01-137-1700-07	N/A	N/A	34,010	0	0
SUIT, CP CAMO-DESERT - 3 color	8415-00-327-5347-53	N/A	N/A	142,498	0	0
SUIT, CP CAMO-DESERT - 6 color	8415-01-324-3084-91	N/A	N/A	0	0	0
SUIT, CP, OG MK3	8415-00-214-8289-92	N/A	N/A	13,671	0	0
SUIT, CP, SARATOGA	8415-01-333-7573-76	N/A	N/A	0	0	0
OVERBOOTS/GLOVES						
BLK/GRN VINYL O/BOOTS	8430-01-317-3374-85	N/A	N/A	264,229	105,000	154,000
CP FOOTWEAR COVERS	8430-01-118-8172 (S) 8430-01-021-5978 (L)	N/A	N/A	0	0	0
CP GLOVES 7 MIL	8415-01-138-2501-04	N/A	N/A	147,482	0	0
CP GLOVES 14 MIL	8415-01-138-2497-00	N/A	N/A	649,542	0	0
CP GLOVES 25 MIL	8415-01-033-3517-20	N/A	N/A	1,211,189	0	0
CP SOCKS	8415-01-04-3169	N/A	N/A	271,667	0	0
DISP FOOTWEAR COVERS	8430-00-580-1205-06	N/A	N/A	50,579	13,455	14,052
MISC PROTECTION						
CP HELMET COVER	8415-01-111-9028	N/A	N/A	188,704	0	0
HOOD, MCU-2A/P	4240-01-189-9423	N/A	N/A	846,411	0	0
CONTAMINATION AVOIDANCE COMMODITY AREA						
CHEMICAL DETECTION EQUIP						
MAINT KIT, M293	5180-01-379-6409	N/A	N/A	2,374	0	0
TUBE PHOSGENE	6665-01-010-7965	N/A	N/A	48	196	196
DECONTAMINATION COMMODITY AREA						
CALCIUM HYPOCHLORITE	6810-00-255-0471	N/A	N/A	103,612	27,752	55,504
DRY SORBENT POWDER	6850-01-262-0484	N/A	N/A	80	0	0
STB, 50 LB	6850-00-297-6653	N/A	N/A	540	1,380	1,380
COLLECTIVE PROTECTION COMMODITY AREA						
PRE-FILTER, SHIPBOARD CPE	4240-01-348-8785	N/A	N/A	554	588	588

--

Table 4-6. Defense Logistics Agency Logistics Readiness Data - Consumables

					PROJECTED DUE INS	
NOMENCLATURE	NSN	TOTAL SERVICE RQMT	NUMBER REQUIRED FOR 2MTW	STOCKS ON HAND TO INCLUDE FY98 DUE INS	FY99	FY00
MEDICAL COMMODITY AREA						
2-PAM CHLORIDE, AUT	6505-01-125-3248	N/A	N/A	237,887	250,000	250,000
ATROPINE AUTOINJ	6505-00-926-9083	N/A	N/A	375,172	340,000	340,000
CANA	6505-00-274-0951	N/A	N/A	267,034	300,000	300,000
DIAZEPAM	6505-00-137-5891	N/A	N/A	5,588	0	0
NAAK, MKI	6705-01-174-9919	N/A	N/A	552,000	0	0
PYRIDOSTIGIMINE TABLETS	6505-01-178-7903	N/A	N/A	256,196	100,000	100,000
LITTER DECONTAMINABLE	6530-01-380-7309	N/A	N/A	3,500	1,518	0
MES CHEM ACT PAT TR	6545-01-141-9469	N/A	N/A	164	0	0
MES CHEM AG PAT DECON	6545-01-176-4612	N/A	N/A	108	0	0

APPENDIX 2

FIELDDED NBC DEFENSE ITEMS - ISSUES AND CONCERNS

NBC defense items are generally used in combination to form a system or subsystem for a particular function. Therefore, this report will address items used as a system. These systems are categorized into five functional areas:

- Contamination Avoidance
- Individual Protection
- Collective Protection
- Decontamination
- Medical

1. CONTAMINATION AVOIDANCE

Contamination avoidance programs generally include equipment that is used to conduct NBC agent reconnaissance, detection, and identification. This area represents approximately half of the annual DoD NBC defense RDT&E budget. Due to recent type-classification of several programs that are intended to modernize contamination avoidance programs, this area has an unusually high number of developmental programs, as compared to other commodity areas. Many programs will complete their fielding beyond FY04.

Current numbers of biological detection devices, to include the Biological Integrated Detection System (BIDS) and Interim Biological Agent Detector (IBAD), are sufficient as measured against the draft average MTW requirements. Automatic biological agent point detectors and stand-off detectors are currently in development, and will not be deployed in significant numbers prior to FY02. The USAF has no fielded biological agent detection capability other than the limited quantities of Portal Shield ACTD biological detectors.

The combined total of chemical agent detection systems remains at moderate risk, but will improve slowly with the M22 Automatic Chemical Agent/Detector (ACADA) supplementing the M8A1 Automatic Chemical Agent Alarm. An Army initiative to inspect and repair M8A1 alarms at Anniston Army Depot has resulted in the quick assessment and return of 1,600 units to the field. Another 1,500 alarms were coded as requiring depot maintenance and are undergoing repairs. As a result of this program, the Army has no shortage of alarms for training purposes and there is no longer an acquisition gap between the combined acquisition of M8A1 and M22 alarms.

The M21 Remote Sensing Chemical Agent Alarm (RSCAAL) is at moderate risk with 82 percent two MTW fill projected by FY04. Technology from this system will be applied to the JSLSCAD, now under development. The M93A1 NBCRS is currently fielded at less than half of its projected requirements. This system adds improved mass spectrometer sampling system along with stand-off chemical vapor detection. Several units continue to use trained reconnaissance personnel in HMMWVs and APCs, thus moderating this risk as continued fielding and developmental systems enter the inventory.

Traditional consumables in this commodity area (M8 and M9 detection paper, M256A1 kits and M272A1 water test kits) are available in sufficient quantities to meet wartime requirements. Some shortages exist in individual Services, but overall there is little risk. Shelf life concerns may change this projection; this area remains under review.

The Army and Air Force radiac programs are expected to meet the two MTW scenario average requirements. The Army National Guard still has a large number of obsolete radiacs. These will be replaced in the near future by the AN/VDR-2 which is available in sufficient quantities through the depot system. The Navy has a small quantities of older radiacs still in the inventory, which should be replaced through a modernization program currently underway. The Marine Corps has about three-quarters of the required AN/VDR-2s and less than half of its AN/PDR-75s as compared to the MTW requirements. While Army stores or industry could compensate for this shortfall, it represents a potential risk, especially at the onset of any contingency.

2. INDIVIDUAL PROTECTION

Currently fielded protective suits and masks were primarily designed for use in the European environment against a Soviet threat. Equipment in this area is designed to protect against all known CB threat agents. Past Service-unique requirements led to Service-specific procurements and some duplication in capability resulting in the procurement of six different chemical protective suits and six different masks. This has caused difficulties in meeting current needs and exacerbated logistics planning. Fielding of the M40/42 protective masks, JSLIST protective suits and the MULO boot has begun to resolve many of these former challenges.

2.1 Protective Ensembles

The Services have initiated acquisition of the Joint Services Lightweight Integrated Suit Technology (JSLIST) suits as a replacement for the BDO and other chemical protective suits. As such, the protective suits should be viewed as a system with the older suits providing readiness stocks until the end of their service life. Contracts placed for the JSLIST program have begun delivery, equating to about 260,000 suits. The initial contracts did not include surge option clauses. Defense Supply Center Philadelphia (DSCP) took management of JSLIST in FY98, whose solicitations include the surge option as a requirement. By examining the year-by-year status of protective suits, we added the number of older suits still within service life to the number of JSLIST suits purchased by that year and matched the total against the requirements. In FY03, the services have sufficient protective suits to meet requirements as projected for the average two MTW requirements. However, beginning in FY05, the number of suits on hand will fall below total Service requirements, as the service life of older protective suits expires in large quantities. These calculations include the approximately \$58 million plus-up per year allocated to purchasing protective suits beginning in FY98 (average plus-up between FY98-03).

The Battle Dress Overgarment (BDO) is reaching its maximum extended shelf life limit (14 years), and the Services have no plans for new production. There are no companies currently

manufacturing the BDO. The Army and Air Force have sufficient suits on hand in war reserves to sustain its requirements for the near term. The Saratoga suit, purchased by DSCP for the Marine Corps, is also out of production, but current stocks will sustain the Marine Corps until the JSLIST is available in adequate numbers. The Navy is relying on existing stocks of their Mark III chemical protective suit (also out of production) as stocks of JSLIST are being procured.

Armor crews and aircrews require special protective ensembles to integrate with their weapon systems. Services have sufficient numbers of aircrew suits to meet requirements, given the smaller total requirements for aircrews (relative to ground troops). The only exception is the CWU-66/77, which is supplemented by the Chemical Protective Undercoverall to result in a moderate risk rating. To protect armor crewmen when they exit their vehicles, the Services have developed the Suit Contamination Avoidance Liquid Protection (SCALP). This suit is rated as high risk because the Services have less than 25 percent of MTW requirements on hand. Increased procurements would reduce both risks in the short term.

The Services have adequate stocks of 7, 14, and 25-mil chemical protective gloves on-hand for contingency use. Recent DoD surveillance tests have validated the protective qualities of the existing butyl rubber glove stocks. The results from calculating the number projected to be on hand for FY04 exceeds the projected average MTW requirement. The status of the Services on-hand inventories has allowed DLA to pursue an Industrial Base Maintenance Contract (IBMC) with both current manufacturers (Siebe North, Inc., Charleston, SC, and Guardian Corp., Willard, Ohio) to sustain the industrial base with "War Stopper" funding.

Chemical Protective Footwear Covers, also known as the "fishtail" boot, have been out of production for several years. Their shortages are supplemented by the Black/Green Vinyl Overboot (BVO/GVO), which is the interim chemical protective footwear until the JSLIST MULO boots have been fielded (FUE expected in FY99). Because the GVO's primary purpose is not chemical protection, current contracts do not include surge option clauses. Again, one should view protective footwear as a system with older GVOs providing readiness stocks until the MULO is fielded in sufficient quantities. Currently, the total DoD inventory shows adequate quantities of protective footwear, resulting in low risk assessment. The USMC is the only service reporting a shortage of footwear, but DLA can fill their shortfall.

2.2 Eye/Respiratory Protection

The Services continue modernizing their chemical protective mask inventories. Different versions of the protective mask were developed to meet the requirements of different military occupational specialties (*e.g.*, air crew, tank crew, *etc.*). For the Army and Marine Corps, the M40 (for generic use) and M42 (for armor crew members) series masks are replacing the M17 and M25-series masks, respectively. Some Army aviation units are still equipped with the old M24 mask, which will be replaced by the M45 mask. The M43-series mask, designed to be used by Apache equipped units, was in fact issued to all types of aviation units. It is being replaced by the M48 (Apache) and M49 (general aviation) series mask. The M45 will replace the M49 as the general aviation mask. This modernization effort is still ongoing; not all units have replaced their M43-series masks. All of these masks are at low risk, as the combined numbers of all

aviator masks on hand exceeds the requirement. These newer masks provide increased protection, improved fit and comfort, and compatibility with most Services' weapons systems' optics and sights.

The MCU-2A/P mask is designed to meet the needs of the Air Force ground crews, Navy shipboard and shore-based support missions, and Marine Corps rotary wing forces. The number of these masks on hand generally exceeds the requirement. The USAF has some shortages in masks and does not have second skins to provide complete personal protection. It will continue to be the mainstay of these units until the Joint Service General Purpose Mask is fielded, which will also replace the M40/42 masks. The Aircrew Eye/Respiratory Protection (AERP) mask is specially designed to enable pilots of high performance aircraft to conduct mission in a contaminated environment. Quantities of this mask are at 80% of the draft MTW requirements, making this a moderate risk.

In order to provide complete protection to our forces on the contaminated battlefield, particularly from liquid chemical agents, protective hoods and helmet covers are required as part of the individual protective ensemble. The protective hood for the M40 is rated as low risk. It is being replaced by the second skin for the M40 series mask, which is a high risk program with only 60 percent of requirements on hand by FY04. The MCU-2P hood is at low risk with an abundant inventory. Protective hoods for the M17-series, M24, and M25A1 masks are not a readiness issue, as these masks are leaving the inventory. The Chemical Protective Helmet Cover is a moderate risk with 66 percent of FY04 requirements expected to be on hand.

Filters and canisters provide the active ingredients that absorb the chemical and biological agents and provide the essential protection required. The C2/C2A1 canister is used with the M40, M42, M43, M45, M48, M49 and MCU-2/P masks. The number on hand currently exceeds requirements through FY04. The M13A2 filter element also exceeds requirements, but as stated will be leaving the inventory with the retirement of the M17-series mask. The M10A1 filter canister used on the M24/25 is short of the requirement, but these masks will leave the inventory and will not be a readiness problem.

3. COLLECTIVE PROTECTION

There are two general categories of collective protection: stand-alone shelters and integrated systems. Integrated collective protection equipment is component equipment designed to provide protection against CB agents through the use of filtered air under positive pressure to a variety of facilities, vans, vehicles, aircraft and ships. Filters for these integrated collective protection systems (CPS) are in short supply due to low peacetime demand and low production quantities. The increased emphasis on procuring individual protection and contamination avoidance equipment has resulted in a corresponding decrease in procurements of shelters and large collective protective filters.

The Air Force has expressed interest in a greater collective protective shelter capability. Combined with the Navy's increasing shipboard collective protection filter requirements and the Army and Marine Corps traditional integrated vehicular systems and tactical shelter

requirements, the near-term MTW requirements for large carbon-based filters have outpaced current inventories even aided by industrial surge capability. As a result, much of this sector is assessed as high risk, though the risk is primarily due to the level of funding rather than technical shortfalls.

In the near term, the M51 shelter will be replaced by the new Chemical and Biological Protective Shelter (CBPS). All Army M51 shelters have been coded as unservicable. The CBPS is presently in production with fielding to initiate in 1QFY99. Both Army and Air Force field hospitals are being integrated with environmentally controlled collective protection. The Army's Chemically Protected Deployable Medical Systems (CP DEPMEDS) achieves collective protection through the integration of the M28 Simplified CPE, chemically protected air conditioner, heaters, water distribution and latrine and alarm systems. The M28 Simplified CPE is in production and chemically protected heaters and air conditioners will initiate production before FY99. However, M28 components produced will not be enough to field 18 complete hospitals as originally planned, and all these components are not funded to meet Force Package I requirements. The effort to complete development and production of chemically protected latrine and water distribution systems and alarms remains unfunded.

The M20-series Simplified CPEs are used to provide a contamination-free, environmentally controlled work space for Echelon I and II forward area medical treatment facilities. Current funding levels, however, only will meet Force Package I requirements. There are some Force Package II units designated for deployments into high threat regions that will not be equipped with M20 shelters. This leads to an assessment as high risk. Current policy is that the M20/M20A1 Simplified CPE is a free issue item with no requirement to stock other than spares replenishment. The Marine Corps has Portable Collective Protection Shelters (PCPS) but does not plan to field them. The M20A1 SCPE is by default the only modern collective protection stand-alone shelter outside of the medical community in the inventory.

The Services have continued to improve integrated collective protection systems in armored vehicles and vans. All modern armored vehicles and armored vehicles in development have either filtered air systems, hybrid collective protection or full collective protection systems designed into their chaises. Notable progress has been made in providing shipboard collective protection. By the year 2000, most Naval ships that have close-in support roles (including amphibious ships, gunfire support combatants, and new logistics support ships) will contain significant CPS capabilities.

Collective protection filters for integrated systems (such as armored vehicles, ships and planes) continue to suffer from low stocks. While the Services have been proactive in selecting more capable industrial sources, actual procurement and storage of these filters to MTW requirements has not yet been initiated. As a result, stocks of filters (in particular those associated with the 200 CFM Particulate Filter Set for Shipboard Collective Protection Systems) remain at a critically low level. Continued difficulties in obtaining a strong industrial base in this field compound the issue of fielding and sustaining these items.

4. **DECONTAMINATION**

Current decontaminants are highly effective against all CB agents, but most present environmental hazards and are manpower intensive. The services are attempting to find environmentally safe decontaminants that are less labor intensive.

Basic soldier skills for decontamination of vehicle and crew-served weapons rely on the M11 Decontamination Apparatus, Portable (DAP) and M13 DAP. While the M11 is assessed as posing low risk, there are insufficient quantities of the M13 DAP as measured against the MTW requirements. The 1½ quart M11 can be used in place of the 14-liter M13 DAP, but they do not fulfill the same exact capability (in part due to the volume of DS-2).

The M17-series Lightweight Decontamination System (LDS) is used to provide operational equipment decontamination in many battalion-level units and dual-purpose (smoke/decontamination) chemical companies. The Air Force employs the M17 at the squadron level for operational equipment decontamination. The M17 is assessed as a low risk, but may be increased due to a delay in rebuilding several hundred systems caused by a lack of funding since 1990. There is still a large mix of different models in the inventory, forcing the Services to retain a large number of differing spare parts to maintain the different models. Based on projected inventory, should spare parts become difficult to obtain for the different models, the risk may become high. Overall, this risk should drop as more systems are produced and the older models are upgraded or replaced. The Marine Corps is upgrading all of their LDS to the diesel engine. The Air Force is deleting stocks of A/E32-U systems by attrition, modifying existing M17s to M17A2s, and procuring additional M17A3s to satisfy shortages.

In the Army, the M12A1 Power-Driven Decontamination Apparatus (PDDA) and the M17A3 LDS are the primary pieces of equipment used to decontaminate vehicles, crew-served equipment and large areas of terrain. The M12A1 is assessed as moderate risk. Although the quantities on-hand of the M12A1 would normally result in a low risk assessment, the maintenance requirements, due to the age of this item, limit its full utilization. The M21/M22 Modular Decontamination System will displace 200 M12A1 PDDAs over the POM period, resulting in a high-low mix of technology. By FY02, the on-hand quantities of the M21/M22 MDS alone should satisfy the two MTW requirement. Additionally, the Marine Corps is replacing their M12A1 PDDAs with the M17-series LDS.

Although sufficient quantities of bulk DS-2 are available, the Army and Marine Corps plans for stocking containers of DS-2 (5-GAL and M13 Can) are below the MTW requirements expected for decontamination operations. While less hazardous replacement decontaminants are being developed, the quantities and packaging of current decontaminants present potential risk. The projected stockage of STB meets average MTW requirements, but has been considered a high-risk category in the past. Slight shortages in calcium hypochlorite and sodium hypochlorite can be made up by the industrial base, using commercially available alternatives. These increased requirements come as a result of increased attention to the need for decontamination capabilities in the 2 MTW scenario, and will be further refined. Continued monitoring is recommended.

The M258A1 Skin Decontamination Kit is the primary item used in personnel decontamination. The replacements for the M258A1 is the M291 Skin Decontaminating Kit. Although the M291 would be assessed as high risk, the availability of M258A1 decontamination kits still in the inventory helps steady overall readiness stocks. These M258A1 kits are expected to expire in FY99, which will raise the risk assessment next year if procurements of the M291 kit are not increased. Rohm & Haas, Co., the sole supplier of the resin, sold the mixing and packaging equipment they used to manufacture the M291 Decontaminating Kit. Pine Bluff Arsenal, Arkansas, set up a production line and began to manufacture the M291 Decontaminating Kit in October 1996. Rohm & Haas continues to provide the XE-555 resin components. True Tech Inc. is blending the components to make the XE-555 resin. Alternatives to producing a kit that does not use the XE-555 resin are being studied. There are a number of options being explored to retain this "at risk" technology.

The projected stockage of the M295 Individual Equipment Decontamination Kit puts it in a high risk category when compared with 2 MTW requirements. The M295 Decontamination Kit uses the same resin mix as the M291 Decontaminating Kit, and began delivery in December 1997. True Tech Inc. has been producing this item in quantities of 760 kits per month for the past year. Increased funding for its procurement would alleviate the risk.

5. MEDICAL

Medical NBC defense items are used to counteract the effects of exposure to chemical or biological agents through pre-treatments, vaccines, or post-treatments. Current projections for medical chemical defense material indicates that sufficient quantities should be on hand through the POM years and present low risk. Quantities of Nerve Agent Antidote Kits (NAAK), Convulsant Antidote Nerve Agent (CANA), and Nerve Agent Pyridostigmine Pretreatment (NAPP) tablets now support two MTW requirements. The overall status of medical CB defense programs has not changed since last year, but this year's report has expanded its scope to include medical treatments for biological warfare agents and a cyanide exposure.

NAAP is still an Investigational New Drug (IND) for the use as a nerve agent pre-treatment. The U.S. Army Medical Materiel Development Activity (USAMMDA) has continued to work with the FDA for approval. Roche manufactures NAAP in Great Britain. Roche has sold this production line to ICN. Defense Supply Center –Philadelphia (DSCP) is working with ICN to establish a requirements contract for the manufacturer of NAAP.

The sole supplier to DoD for NAAK, atropine autoinjectors, pralidoxime autoinjectors and CANA is Meridian Medical Technologies, St Louis, Missouri. The medical chemical defense production line is being maintained with an IBMC. Meridian is an U.S. company but it obtains its atropine for the autoinjectors from a German supplier. Currently there is no domestic source for this drug. Pralidoxime and diazepam (CANA) for the autoinjectors is available from U.S. sources.

Patient Chemical Wraps have not been procured since 1991 and are made of the BDO materiel. USAMMA and the AMEDDC&S are currently assessing several versions of the patient wrap before initiating new procurement of this item. All services are procuring the new decontaminable litter, but in limited quantities, for first line units. There is a very large stockpile of canvas litters that can be used once in a NBC environment and then destroyed. As the canvas litters are depleted, they will be replaced with the new nylon decontaminable litter.

The Army has centrally funded, procured, stored, and managed Medical Chemical Defense Materiel since 1994 at Surgeon General designated storage locations. The U.S. Army Medical Materiel Agency (USAMMA) is the project manager for this materiel. Materiel is stored at strategic locations as Division Ready Brigade sets (DRBs), which support 5000 service members or by lot, manufacturer and product at Meridian Medical Technologies under an IBMC. The Air Force, Navy and Marine Corps maintain their medical CB materiel in decentralized unit locations. Visibility of on-hand assets has been improved with the release of the Joint Medical Asset Repository (JMAR) which is the Class VIII (medical) portion of JTAV.

Medical research programs continue to explore medical countermeasures to deter and defeat the use of biological warfare agents against U.S. forces. The Joint Program Office for Biological Defense (JPO-BD) has awarded a prime systems contract through the Joint Vaccine Acquisition Program (JVAP) for the development, FDA licensure, storage, and production of vaccines against DoD's identified potential biological warfare agents. Currently, the U.S. total force (active and reserve forces) is being vaccinated against the primary high-threat BW agent, anthrax. The anthrax vaccination program is a three-phase program, starting with the troops serving in-or identified to deploy to-the two high-threat areas where hostile anthrax-use poses the greatest potential danger. The vaccination program is on-schedule and will take between seven and eight years to complete for all service members (to include new personnel acquisitions as the program extends over the entire period).

JPO-BD has assisted the sole domestic supplier of anthrax vaccine to maintain its FDA licensure and transition the production facility to private ownership in FY98. A follow-on contract was also awarded in FY 98 to ensure sufficient anthrax vaccine to meet the DoD vaccination program. Other vaccines (or combinations) are currently in various stages of development and testing to protect against other BW agents identified in the Chairman of the Joint Chiefs of Staff (CJCS) validated BW threat list. In the area of medical therapeutics, the Department is maintaining a stockpile of antibiotics (*e.g.*, ciprofloxacin, doxycycline, etc.) sufficient to address the treatment needs of potential BW exposures, where such treatment is medically indicated.